

AMENDMENT
U.S. Appln. No. 10/661,476

REMARKS

Upon entry of the claim amendments, Claims 1-3, 5-10, and 12-15 will be all the claims pending in the application.

Applicants have incorporated the subject matter of Claim 4 into Claim 1.

Claims 4 and 11 have been canceled without prejudice or disclaimer.

New Claim 15 is supported by the description at, for example, page 5, lines 24-26, of the specification.

No new matter has been added.

The final Office Action contains a pair of §112 rejections at Section Nos. 2 and 3. Specifically, Claim 11 is rejected under §112, first paragraph, for failing to comply with the written description requirement, and Claims 1-14 are rejected under §112, first paragraph, for failing to comply with the enablement requirement.

In response, Applicants have amended Claim 1 and canceled Claim 11. Amended Claims 1-3, 5-10, and 12-15 satisfy each and every requirement of §112. Reconsideration and withdrawal of the §112 rejections is requested.

At Section No. 7 of the final Office Action, Claims 1-8 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over **Schultze (US 4,460,529)** in view of **Knudsen (US 5,273,699)**. At Section No. 8 of the final Office Action, Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Schultze in view of Knudsen as applied to Claims 1-8 and 10 above, and further in view of **Okano (US 5045365)**. At Section No. 9 of the final Office Action, Claims 12-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Schultze in view of Knudsen as applied to Claims 1-8 and 10 above, and further in view of **Dittrich et al (US 3617358)**.

Applicants respectfully traverse each of the rejections.

As acknowledged by the Examiner, Schultze does not disclose:

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- a) a powder comprising AlN grains covered with a layer of oxide precursor which yields an oxide forming a liquid phase around said AlN grains during said spraying.

Furthermore, Schultze does not disclose:

- b) the step of dissolving an oxide precursor in an organic solvent to form a solution, wherein said oxide precursor is an organometallic substance;
- c) the step of dispersing AlN powder in said solution with vigorous agitation, to form a suspension; and
- d) the step of atomizing said suspension in an inert atmosphere to obtain a powder.

Knudsen describes an AlN powder which is rendered moisture-resistant (column 2, lines 36-39) and the preparation of an aqueous slip containing the moisture-resistant AlN powder.

Knudsen teaches:

- 1) thoroughly mixing a slurry containing AlN powder and an yttrium-containing compound and a polar organic solvent (column 3, lines 21-24);
- 2) removing the solvent from the slurry to form a moisture-resistant AlN powder (column 3, lines 24-27);
- 3) dispersing the moisture-resistant AlN powder in an aqueous medium to be milled with ceramic composite components, thereby forming a slip (column 4, lines 1 to 4);
- 4) the slip is cast, injection molded or compacted to form a greenware article which then may be sintered (column 5, lines 12 to 14);
- 5) burning out the greenware article in an inert gas atmosphere (column 5, lines 28-34); and
- 6) after burning, the article is generally sintered (column 5, lines 36-37).

Thus, Knudsen does not teach the claimed step of atomizing and the claimed step of spraying the AlN powder.

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In fact, none of the cited references describes the full combination of features recited in amended Claim 1.

Furthermore, Schultze does not suggest the desirability to replace Schultze's AlN powder by Knudsen's moisture-resistant AlN powder.

An AlN substrate for use as a support for electronic component has to present the highest possible thermal conductivity (refer to page 1, lines 9 to 10 of the present application).

As a result, the person of ordinary skill in the art never uses a slip formed from an aqueous medium because this lowers the thermal conductivity of the substrate. Only non-aqueous slips are used.

Therefore, the skilled artisan is not inclined to use a moisture-resistant AlN powder because the AlN powder is not used in non-aqueous medium.

Furthermore, Knudsen does not teach or suggest that the moisture-resistant powder that results from step 2) can be sprayed. On the contrary, Knudsen strongly suggests (refer to column 1, lines 28-29) that the moisture-resistant powder is to be used to form an aqueous slip that can be cast, injection molded or compacted to form a greenware article.

Therefore, there is no reason why one, provided with the Knudsen's teachings, would ever be motivated to replace Schultze's AlN powder by Knudsen's AlN powder.

Applicants would also like to point out that Knudsen specifically teaches to not add additives, such as binders, lubricants and plasticizers, to the slurry that results from its step 1 (column 3, lines 56-58). The slurry has no surfactant (column 3, lines 23-24).

Thus, the slurry obtained at the end of Knudsen's step (1) has no stabilizing agent or surfactant. The slurry is therefore not suitable to be atomized in an inert atmosphere. Therefore, the atomizing step and the spraying step cannot be carried out using the slurry of Knudsen.

In conclusion, Applicants submit that none of the cited references, alone or in combination, describes or suggests the combination of features as recited in amended Claim 1.

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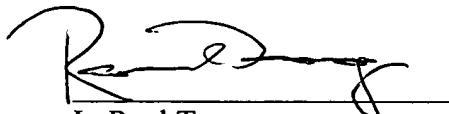
The dependent claims are allowable at least for depending from an allowable independent claim.

For the reasons stated above, Applicants state that independent Claim 1 and its dependent claims are patentably distinct from the cited references.

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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